VSR-FEX

EXPLOSION PROOF VANE TYPE WATERFLOW ALARM SWITCH WITH RETARD

Service Use:

Automatic Sprinkler	NFPA-13
National Fire Alarm Code	NFPA-72

Optional: Cover Tamper Switch Kit, Stock No. 0090139

cUL, UL, CSFM and NYMEA Listed and FM Approved
DEMKO 08 ATEX 0728480X

II 2 G Ex d IIB T6
II 2 D Ex tD A21 IP66 T85C

Service Pressure: Up to 450 PSI (31 BAR)
Minimum Flow Rate for Alarm: 10 GPM (38 Lpm)
Maximum Surge: 18 FPS (10 m/s)
Contact Ratings: Two sets of SPDT (Form C)
15.0 Amps at 125/250 VAC
2.0 Amps at 30 VDC Resistive

Conduit Entrances:
Two conduit entrances provided for ½" conduit with ½" NPT threaded connections

Environmental Specifications:

- For use in hazardous locations, Classified as:
  Class I: Groups C, D, Div. 1
  Class II: Groups E, F, G, Div. 1
  Class III: Div. 1
- Suitable for indoor or outdoor use with factory installed gasket and cast aluminum housing
- NEMA 4 Rated Enclosure - use with appropriate conduit fitting
- Temperature: 40°F/120°F, 4,5°C/49°C
- Non-corrosive sleeve factory installed in saddle

Sizes Available: Pipe schedules 10 thru 40, sizes 2" thru 8" (50mm thru 200mm)

General Information

The Model VSR-FEX is a vane type waterflow switch for use on wet sprinkler systems located in hazardous locations as shown above. The unit may also be used as a sectional waterflow detector on large systems.

The unit contains two single pole, double throw, snap action switches and an adjustable, instantly recycling pneumatic retard. The switches are actuated when a flow of 10 gallons per minute (38 Lpm) or more occurs downstream of the device. The flow condition must exist for a period of time necessary to overcome the selected retard period.

Enclosure

The unit is enclosed in a cast aluminum housing. The cover is held in place with six M6 x 30M socket head cap screws with property class 8.8.

Installation (See Fig.2)

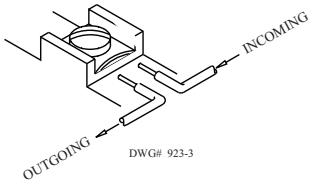
These devices may be mounted on horizontal or vertical pipe. On horizontal pipe they should be installed on the top side of the pipe where they will be accessible. The units should not be installed within 6" (15cm) of a fitting which changes the direction of the waterflow or within 24" (61cm) of a valve or drain.

Drain the system and drill a hole in the pipe using a circular saw in a slow speed drill. The 2" and 2 1/2" (50mm and 65mm) devices require a hole with a diameter of 1 1/4" + 1/8" - 1/16" (33mm ±2mm). All other sizes require a hole with a diameter of 2" ± 1/8" (50mm ±2mm).

Clean the inside pipe of all growth or other material for a distance equal to the pipe diameter on either side of the hole.

Roll the vane so that it may be inserted into the hole, do not bend or crease it. Insert the vane so that the arrow on the saddle points in the direction of the waterflow. Install the saddle strap and tighten nuts alternately to an eventual 50 ft-lbs. (68 n-m) of torque. See Fig. 2. The vane must not rub the inside of the pipe or bind in any way.

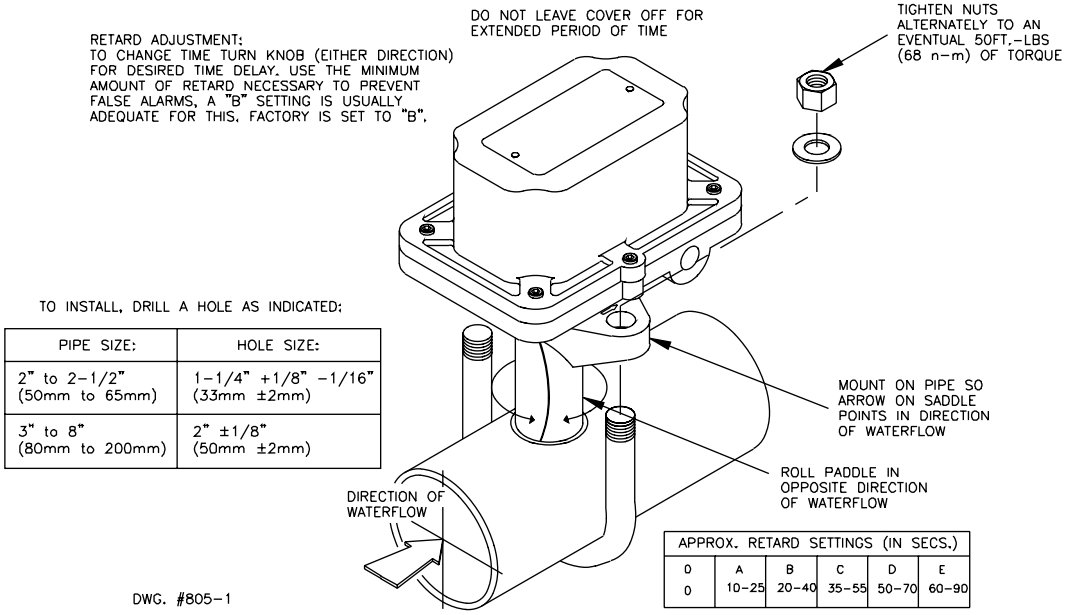
Switch Terminal Connections Clamping Plate Terminal
Fig. 1



⚠ CAUTION

An uninsulated section of a single conductor should not be looped around the terminal and serve as two separate connections. The wire must be severed, thereby providing supervision of the connection in the event that the wire becomes dislodged from under the terminal.

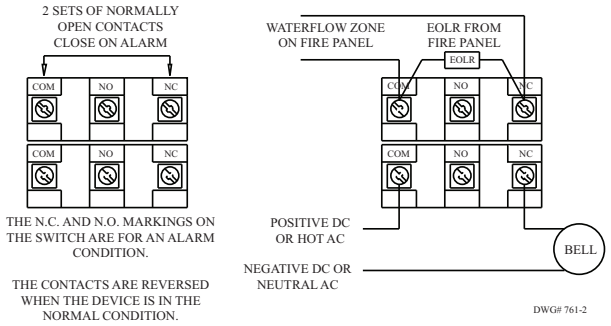
Fig. 2



⚠ CAUTION

When this device is to be installed in an area that is classified as "Hazardous", the person responsible for safety in the area should be contacted to determine if the tools and operations required for the installation of the device and associated components are permitted in the area. To reduce the risk of ignition of hazardous atmospheres, disconnect supply circuits before opening enclosure. Keep cover tightly closed when in operation. Cover screws must be torqued to a minimum of 20 in. lbs.

Fig. 3 Typical Electrical Connections



Notes:

1. The Model VSR-FEX has two switches, one can be used to operate a central station, proprietary or remote signaling unit, while the other contact is used to operate a local audible or visual annunciator.
2. Note: For supervised circuits see "Switch Terminal Connections" drawing and caution note (Fig. 1).

Testing

The frequency of testing for the model VSR-FEX and its associated protective monitoring system should be in accordance with applicable NFPA Standards and/or the authority having jurisdiction (manufacturer recommends quarterly or more frequently).

If provided, the inspector's test valve, that is usually located at the end of the most remote branch line, should always be used for test purposes.

If there are no provisions for testing the operation of the flow detection device on the system, application of the VSR-FEX is not recommended or advisable.

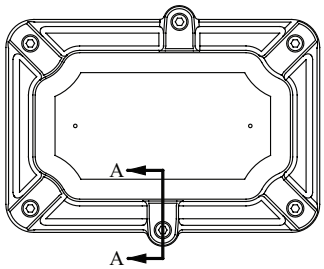
A minimum flow of 10 gpm (38 Lpm) is required to activate this device.

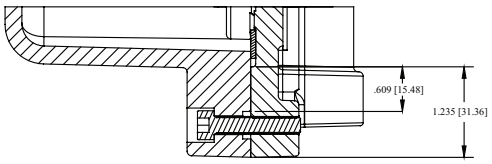
Important Notice

Please advise the person responsible for testing of the fire protection system that this system must be tested in accordance with the testing instructions.

Fig. 4 Joints and Clearances

Minimum Joint Width

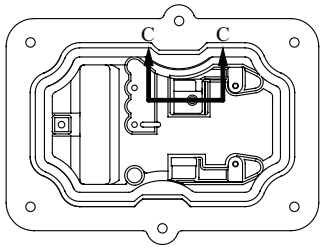


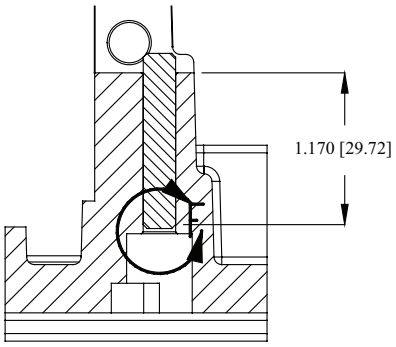


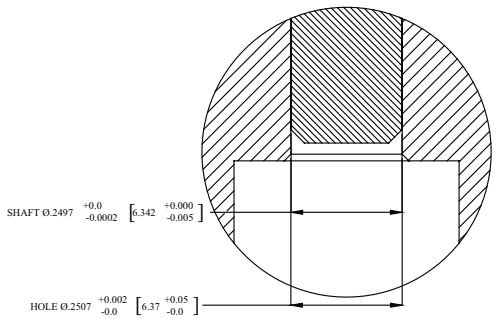
SECTION A-A

NOTE:
WITH COVER SCREWS TIGHTEND TO 20-25 IN/LBS (2.26-2.825 Nm) THE BASE TO COVER JOINT GAP MUST BE LESS THAN .0015 IN. (.038mm).

Max Clearance







DETAIL F

MAX CLEARANCE .0032 IN. (.08mm.)

DWG# 805-2